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SUBJECT: SECOND ANNUAL RENEWABLE ENERGY CONFERENCE: SHOWING THE WAY,
STILL LOOKING FOR THE WILL

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1. SUMMARY. Dushanbe hosted the Second Annual Renewable Energy Conference on November 9, sponsored by the Carnegie Endowment for International Peace, the Regional Environmental Center for Central Asia (CAREC), and the Renewable Energy Association of Tajikistan (REAT). Attendees came from all the Central Asian countries, Europe, Russia, and the United States. Tajikistan's First Deputy Minister of Energy and the U.S. Ambassador to Tajikistan gave keynote speeches to open the conference. Among the many points raised, the presenters noted the rich potential of renewable energy, citing a number of projects in solar, wind, and small hydropower. They also pointed out the lack of financing, the fact that renewable energy is not yet commercially feasible, and that investors face an unclear legal environment fraught with risk. Yet, with persistence and favorable policies, renewable energy could become cheaper than oil, gas, or coal over time. Renewable energy could also stimulate economic development in rural communities, provide jobs, raise incomes, and alleviate poverty. END SUMMARY.

TAJIKISTAN RICH IN POTENTIAL BUT LACKS FINANCING

2. Tajikistan's First Deputy Minister of Energy and Industry, the U.S. Ambassador to Tajikistan, and noted Central Asian scholar Dr. Martha Olcott gave keynote speeches opening the Second Annual Renewable Energy Conference on November 9. (NOTE: On the eve of the conference, Dushanbe's electricity went out across the city for two hours. It was not only a timely premonition of the importance of renewable energy to Tajikistan's future, but it was also a testament to the energy crisis that Tajikistan now faces at the onset of winter. END NOTE.) First Deputy Minister of Energy and Industry Asadullo Gulyamov said Tajikistan was blessed with considerable renewable energy potential, including small hydro power and wind energy in remote villages off the grid. Tajikistan had an adequate legal and normative base to develop renewable energy, and international organizations and banks had already financed renewable energy projects. Unfortunately, Tajikistan's ability to fund such projects was inadequate. Because Tajikistan was in a constant state of need, and because the existing energy capacity was insufficient to meet the country's needs, Tajikistan was keenly interested in developing its renewable energy potential. This conference would give all participants the opportunity to see the various paths forward.

AMBASSADOR: DIVERSIFICATION IMPORTANT BUT NEED CLEAR RULES

13. Ambassador Gross said renewable energy was very important in Central Asia, and President Obama had made renewable energy development a high priority. He applauded Tajikistan for its work to develop renewable energy, but he noted that Tajikistan faced rationing part of the year because of the cyclical nature of its energy sources. Diversifying its energy sources and capacity was very important for Tajikistan's future, and wind, solar, and small hydro power stations were all readily available. A lack of clear rules for small energy producers was one roadblock to using more renewable energy, but he added that there was a draft law to promote renewable energy. However, the general population still had very little understanding about Tajikistan's considerable renewable energy potential.

IS RENEWABLE ENERGY FEASIBLE?

14. Asian Development Bank (ADB) Country Director Makoto Ojima said Tajikistan was one of the countries most severely affected by climate change, largely due to glacier melting. In the long term, Tajikistan needs to adapt to reduced water flows and consequently less hydro power. He cited a number of ADB projects, including the Nurek Dam and the transmission line project to enable the export of electricity to Afghanistan. He noted that ADB's "Strategy 2020" aimed to provide reliable energy consistent with sustainable development, and this strategy gives high importance to all renewable energy sources in the context of climate change. The ADB was planning to spend \$50-80 million in ten countries, including Tajikistan, to address the impact of climate change.

15. REAT President Umarmhon Madvaliev said Tajikistan was using only 5% of its solar and wind renewable energy potential of 527 billion kilowatt hours (kWh) per year. Unfortunately, there was a lack of financial resources to develop renewable energy, there

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was no regulatory legislation concerning its use, and there were not enough trained technicians in the field of renewable energy.

16. Kyrgyzstan NGO "Akmena" Alexey Postnov said domestic consumption in Kyrgyzstan accounted for 48% of energy use, industry 28%, and agriculture 11%. One could not talk about renewable energy in Kyrgyzstan without also discussing the problems of inadequate energy supply, constantly pending energy crisis, inefficient use of resources, and lack of profitability. In addition, there was enormous loss of energy along transmission lines. Kyrgyzstan's energy crisis had a political aspect: the lack of a specific mechanism to manage water resources that was acceptable to all parties. The political barriers included inadequate information among users on the possibility of renewable energy, a lack of financing for such projects, and the need to improve the legislation regarding the use and production of renewable energy. On the positive side, the private market is gradually developing, and both China and South Korea are currently negotiating possible investment.

17. Kazakhstan's UNDP Wind Energy Development Consultant Gennady Doroshin said UNDP's wind energy project in Kazakhstan was currently generating 121 kilowatt-hours (kWh) per year and experiencing growth of up to 30% per year; by 2010 Kazakhstan is expected to generate more than 400 Gigawatt-hours of wind energy per year. Over time, the cost of wind energy could begin to approach the cost of coal, and it would be much cheaper than nuclear power. The Kazakhstani government fully backed this program and there was good investment potential. Doroshin helped the UNDP develop Kazakhstan's first wind atlas, which maps where winds were strongest, helping potential investors identify good locations for wind stations. By 2024, Kazakhstan planned to generate 5% of its total energy from wind (it currently stands at 0.028%). In spite of a recent law supporting development of renewable energy, he cited a number of remaining barriers, such as the lack of adequate juridical structures to support and stimulate the development of renewable energy and attract investment, and the high costs of renewable energy projects.

18. Kyrgyzstan State Technical University Professor Ruslan Botpaev presented some projects his university had developed, including solar panels for water heating and space heating in apartments. Solar panel heating was too expensive for the marketplace at the present time and could not be used when cloud cover blocked the sun, often the case in winter. The potential market was huge, however, and with adequate investment and use over time, the cost of solar energy could become cheaper than natural gas.

19. Germany's Gesellschaft fuer Technische Zusammenarbeit (GTZ) Energy Specialist Felix Zeiske said GTZ was using local materials (straw, fiber, lime, clay, etc.) to make thermal insulation for villages, and is double-glazing windows and sealing doors and windows. GTZ hoped this would help reduce the excessive use of wood during winter, thereby reducing forest degradation in the countryside. GTZ was providing micro financing up to \$500 to buy and install insulation, and it expects a savings of 40-60% fuel use per house during winter as a result. GTZ's goal is to insulate 500 homes in the Pamir Mountains by 2010.

10. UNDP Consultant Zoran Morvich said the regulatory and financial framework for small hydro plants was underdeveloped in Tajikistan. At least one million people in rural areas had little or no electricity year round, and this is especially difficult during winter. Seventy-three percent of the population consumed only 8.5% of the country's total electricity. Some small hydro plants existed but they were off the grid and only supplied households. Some communities operated 100 kilowatt to 30 Megawatt stations, but they were also off-grid and operated only in the winter. The UNDP sought to support the development of renewable energy resources (primarily small hydro and solar) to reduce poverty and promote economic development, with a focus on rural communities. Its strategy was to help establish the proper political framework to promote the development of community-based small hydro and energy efficient projects; secure financing for renewable energy and energy efficient development, using local manufacturers and operators; and strengthen the capacity to monitor how renewable

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energy projects help reduce poverty. The eventual goal was a 50% reduction in poverty.

LEGAL FRAMEWORK FOR RENEWABLE ENERGY

11. Tajikistan's Committee of Communication and Investment Deputy Director Shodi Shabdolov acknowledged that there was a lack of legislation on renewable energy in Tajikistan. Parliament, however, was working actively on a draft law to stimulate the development of renewable energy. Tajikistan faced two pressing problems: its forests were rapidly shrinking because villagers used wood in the winter and had no readily available alternative source of fuel; and the Pamir glaciers are shrinking, inevitably affecting life in all of Central Asia. This would force people eventually to leave Central Asia, which would increasingly become a vast empty desert. This consequence was not only the result of the desiccation of the Aral Sea, but also of climate change. Shabdolov said Uzbekistan announced that it would cut off all electricity to Tajikistan beginning in December, not even letting electricity from Turkmenistan transit Uzbekistan. Existing energy resources were very limited, and the people would not wait for the government to pass laws to help develop renewable energy. He did not elaborate on the consequences, but just left the pending threat hang in the air for conference members to ponder.

12. Kazakhstan UNDP Consultant Gennady Doroshin said renewable energy currently was uncompetitive in the marketplace because of high investment costs and high risks. Without adequate legal support, there was no incentive to invest. He cited a number of conditions necessary to promote renewable energy, including a state investment subsidy, tax preferences, a favorable tariff rate that allows producers to sell to the grid, certification

for those permitted to sell renewable energy, a requirement that the state grid purchase renewable energy, and stipulations that a certain percentage of power companies' generation must be renewable. He noted that, because of ongoing concern about corruption, the government of Kazakhstan was still working out this concept. Currently, Kazakhstan lost a tremendous amount of electricity in transmission. Existing problems for renewable energy development included a lack of transparency in the regulations and consequent high risk for investors during the period of project development, bureaucratic barriers, conflict between users and monopolistic regulators, and the demand for renewable energy projects to conform to existing legislation without changes.

DISCUSSION PERIOD: NEED FOR ADEQUATE LEGISLATION

¶13. In the ensuing discussion period, one observer noted that if there was adequate legislation but no implementing act to empower the law, a law would remain just an empty declaration. Another added that the lack of viable renewable energy alternatives in rural areas was why villagers were cutting wood for winter, resulting in a massive stripping of forests, huge ecological degradation, and a major loss for the nation. Yet another said renewable energy was too expensive to develop without support, so if there were no laws that provided favorable policies to investors, there would be no renewable energy and -- noting the recent blackout -- there would continue to be a huge electricity deficit in Tajikistan.

AFGHANISTAN STRESSED NEED FOR RENEWABLE ENERGY PROJECTS

¶14. Senior Advisor to the President of Afghanistan for Mines and Energy Rahman Ashraf gave the most interesting presentation of the conference, stating that for several years Afghanistan was ravaged by war and only since 2001 were the people united enough to build the country and provide for its energy needs. Since 2002, the government had worked with local communities to build small hydro power, solar energy, and wind generating stations. Only 10-15% of the population had access to electricity, one of the lowest rates in the world, and only 3% of the population was connected to the electric grid, mostly in large cities. Most of the existing power stations were more than 40 years old. Eighty-five percent of the power generated is from "biomass" (e.g., wood), and the demand was expected to grow exponentially.

Ashraf said an electricity transmission line from Tajikistan should be completed in 2010, but because it was hydro-generated power would only be available seven months out of the year.

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There would be no electricity transmitted during the winter months.

¶15. Ashraf noted that many small diesel-powered generators were initially sent to rural villages, but they could only provide limited service, they needed repair or replacement, and the local population could not afford to buy the fuel to run them. As a result, most of these generators were now not in operation.

Renewable energy, such as small hydro power, is a much more feasible solution, and since 2003, provincial reconstruction teams (with USAID funding) had installed 135 micro hydro power stations at a cost of \$3500 per village. These stations could be a major energy source for Afghanistan. In addition, solar heating could also be an important source of energy, and the National Solidarity Program had plans to install solar powered lighting in 100 villages. Wind and geothermal power also presented great opportunities for development.

¶16. Ashraf argued that renewable energy could help stimulate regional economic development in rural areas, but villages needed access to financing. He claimed that one kilowatt of electricity in villages could generate up to \$1.5 in GDP. Such projects helped create jobs and increase incomes in the medium- to long-term. He insisted that giving jobs to former Taliban and their families was the best way to bring peace to Afghanistan.

QUAST